

## Versatile Wireless Data Net, Phase I

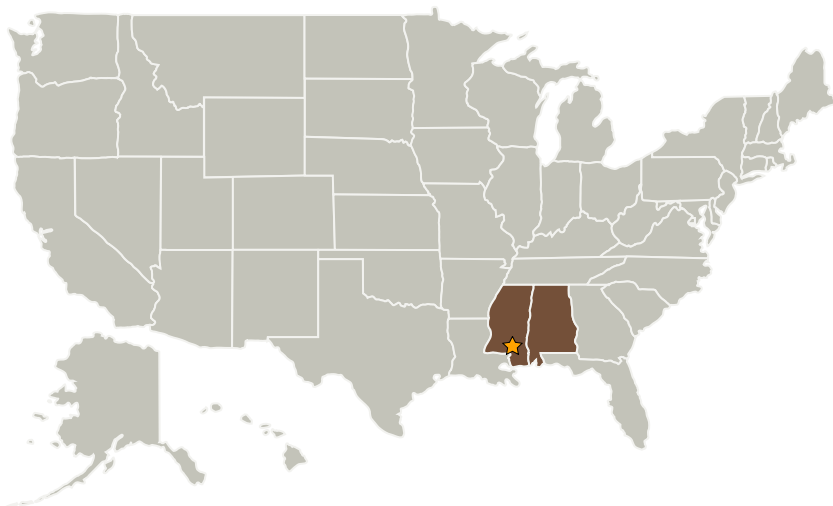
Completed Technology Project (2005 - 2006)



## Project Introduction

The proposed R&D is to develop a wireless data networking capability. A prototype capability will result from the Phase 1 and 2 contracts. The Versatile Wireless Data Net (VWDN) employs an 802.11x wireless protocol for a network of sensor, recording, and monitoring nodes. The concept combines extensive computational capability with a family of transducers in self-contained packages with an electrical and environmental immunity. Plug-in transducers include microphones, extensometers, toxic gas, pressure sensors, explosive gas, strain gauges (both resistance and fiber-optical), load cells, electromagnetic flux, pyrometers, and accelerometers; many will be MEMS devices. The net enables coordinated, efficient transmission of measurement signals; self test metrics, and environmental metrics to a recording computer. This computer also performs data display and network control for operator intervention to set network functional priorities and implement appropriate responses to monitoring trouble messages. An existing ABT wireless nodal prototype and workstation computer will be used as the basis for the developing the full network capability, that will primarily use commercial-off-the-shelf (COTS) MEMS transducers. After the concept is sufficiently defined, Phase 1 tasks will include a simulation to demonstrate proof of concept.

## Primary U.S. Work Locations and Key Partners



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## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Stennis Space Center (SSC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
Alpha Beta Technologies, Inc.	Supporting Organization	Industry	Huntsville, Alabama

Primary U.S. Work Locations	
Alabama	Mississippi

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

Douglas H Morris

## Technology Areas

**Primary:**

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - └ TX05.3 Internetworking
    - └ TX05.3.4 Integrated Network Management